

In the Claims:

Please amend the claims as follows.

1. (Canceled)
2. (Currently Amended) A The transgenic mouse according to claim 4 16, which is capable of transmitting the knocked-in reporter gene to their offsprings.
3. (Currently Amended) A The transgenic mouse according to claim 4 16, referred as Cx40<sup>KIGFP/+</sup>, wherein said reporter gene is eGFP and said transgenic mouse is referred as Cx40<sup>KIGFP/+</sup>.
4. (Currently Amended) A The Cx40<sup>KIGFP/+</sup> mouse according to claim 3, wherein the Cx40 gene is active and wherein the Cx40 protein is expressed and co-localized with the eGFP transgene.
5. (Currently Amended) A mouse offspring resulting from the crossing of a mouse according to claim 1 or 4 with a mouse of the same or different genetic background, wherein said mouse offspring is a double homozygous for eGFP+ allele eGFP.
6. (Canceled)
7. (Canceled)
8. (Currently Amended) A The Cx40<sup>KIGFP/+</sup> mouse according to claim 6 3, wherein the eGFP+ cells that express eGFP in said mouse present electrical features of conductive cardiomyocytes and wherein the expression profiles for eGFP anatomical description of in the left and right

bundle branches are correlated with their respective electrical activity maps recorded, providing an accurate image of the entire mouse ventricular conduction system.

9. (Canceled)

10-15 (Canceled)

16. (New) A transgenic mouse whose genome comprises a fluorescence reporter gene inserted into the connexin 40 (Cx40) gene such that the reporter gene is in operable linkage with the endogenous Cx40 promoter and the Cx40 gene leading to co-expression and co-localization of the reporter protein and a functional Cx40 protein and wherein said reporter gene is expressed in the atrio-ventricular node (AVN), His bundle, bundle branches, and Purkinje fibers of the cardiac conduction system (CCS).

17. (New) The transgenic mouse of claim 16, wherein the mouse is homozygous for said reporter gene.

18. (New ) The transgenic mouse of claim 16, wherein an electrical activity of the CCS does not significantly differ from a non-transgenic control mouse and the expression profiles of the fluorescence protein in the left and right bundle branches correspond with the left and right electrical activity maps providing an image of the mouse ventricular conduction system.